

Claims:

1. A method for selectively separating and recovering hematopoietic cells and/or erythroblasts from a blood sample containing differentiated mature cells, immature hematopoietic cells and erythroblasts, characterized in that the method comprises the following steps:

- (1) a step for causing said sample to interact with lectins to form cell-lectin complexes / non-complexes under conditions in which the cells are rendered inactive,
- (2) a step for incubating a sample containing said cell-lectin complexes / non-complexes under said conditions with a substrate, the surface of which is covered with a synthetic glycoconjugate polymer having carbohydrate moieties specifically recognized by said lectins, and immobilizing said cells on the surface of said substrate via lectins, and
- (3) a step for separating the liquid phase from the solid phase, and recovering desired blood cells from said liquid phase and/or said solid phase; and optionally
- (4) a step for accelerating and stabilizing the immobilization of cells by centrifuging said substrate and cells simultaneously prior to or after the incubation or a step for stabilizing the immobilization of cells by centrifuging the substrate on which the cells are immobilized during the recovering step,

and in that said lectins are present in an amount such that they bind to the cells recovered from said solid phase and immobilize these cells on the surface of the substrate, but do not immobilize the cells recovered from said liquid phase to the surface of said substrate.

2. A method for selectively separating blood cells according to Claim 1, characterized in that said conditions under which said cells are rendered inactive are:

low temperature conditions of 0°C or above but less than 37°C, or
conditions in which a pharmaceutical agent is added which suspends cellular respiration.

3. A method for selectively separating blood cells according to Claim 1 or 2, characterized in that the concentration of said lectins is within a range of 20 mg/ml or less per cell.
4. A method for selectively separating blood cells according to any one of Claims 1 to 3, characterized in that the incubation period of step (1) is set within a range of 0 - 120 minutes, and the incubation period of step (2) is set to a range of 10 - 120 minutes.
5. An apparatus for selectively separating blood cells for conducting the separation method according to any one of Claims 1 to 4, characterized in that the substrate is selected from a group consisting of dishes, flasks, plates, cuvettes, films, fibers, or beads made of glass, polystyrene, polycarbonate, polysulfone, polyurethane, or vinyl copolymer, and that carbohydrate components capable of bonding with said lectins are treated on the substrate.